

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562377

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562377  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-1STD-40-UNV-81-88-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

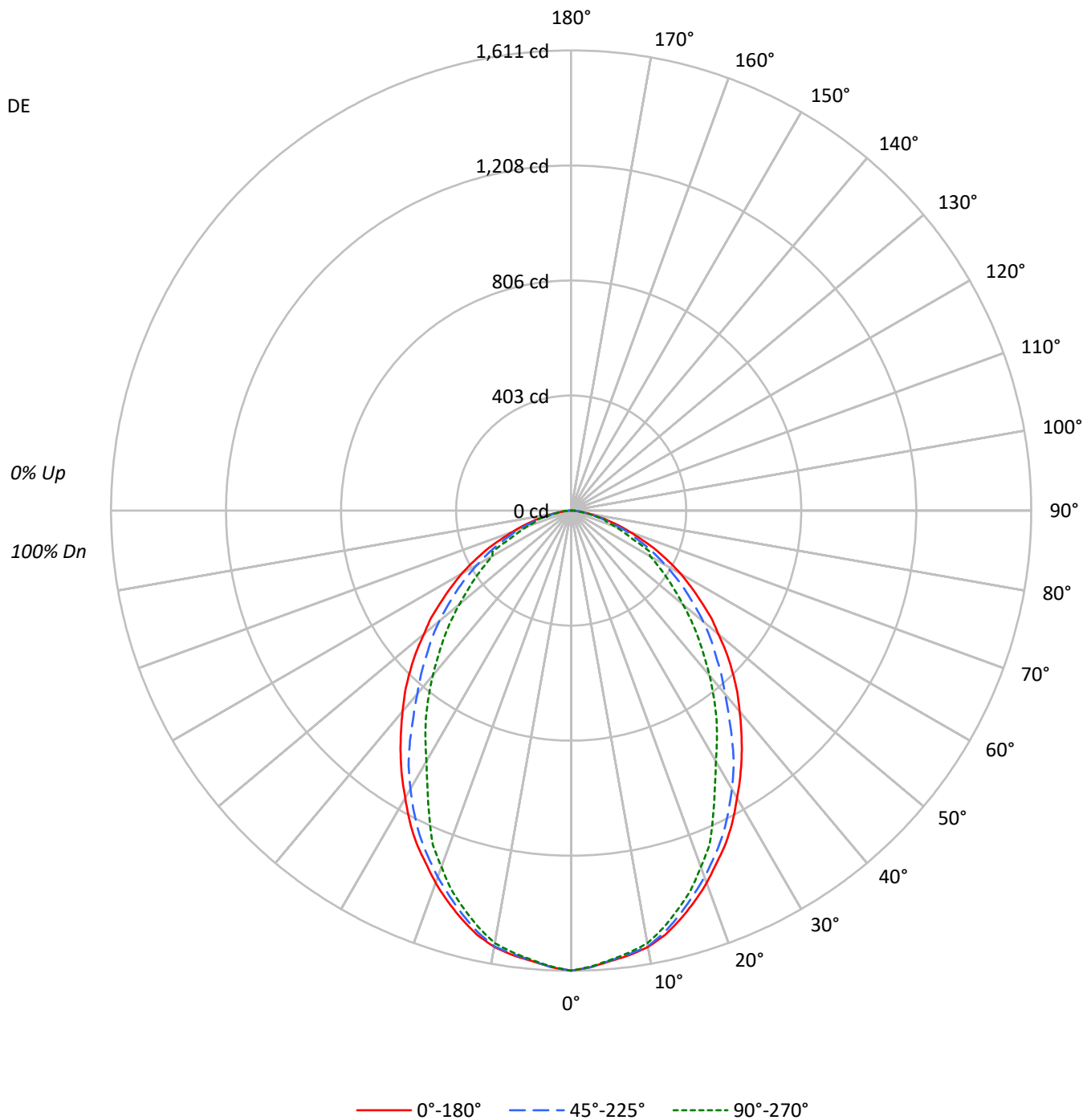
Lumens per Lamp: N/A  
Luminaire Lumens: 3162.0 lumens  
Efficiency: N/A  
Efficacy: 95.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2167	2167	2167
5°	2138	2135	2133
10°	2119	2117	2101
15°	2062	2041	2013
20°	1986	1954	1901
25°	1905	1863	1747
30°	1805	1747	1574
35°	1710	1615	1456
40°	1612	1472	1325
45°	1520	1361	1198
50°	1407	1263	1068
55°	1302	1145	957
60°	1193	1022	857
65°	1049	895	759
70°	864	784	645
75°	687	600	629
80°	462	433	404
85°	287	344	403

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1520 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.9	4.7
10°-20°	411.5	13.0
20°-30°	569.7	18.0
30°-40°	607.4	19.2
40°-50°	554.1	17.5
50°-60°	434.1	13.7
60°-70°	283.0	8.9
70°-80°	125.3	4.0
80°-90°	26.9	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1131.1	35.8
0°-40°	1738.5	55.0
0°-60°	2726.8	86.2
0°-90°	3162.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3162.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1611	1611	1611	1611	1611	
5°	1583	1581	1581	1579	1579	150
15°	1480	1480	1465	1450	1445	416
25°	1283	1276	1255	1210	1177	589
35°	1041	1033	983	909	886	651
45°	799	782	715	655	629	615
55°	555	538	488	430	408	498
65°	330	311	281	287	238	325
75°	132	123	115	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1610.7	1610.7	1610.7	1610.7	1610.7
2.5°	1599.5	1599.5	1599.5	1597.6	1597.6
5°	1582.7	1580.9	1580.9	1579.0	1579.0
7.5°	1569.7	1567.9	1566.0	1564.1	1560.4
10°	1551.1	1551.1	1549.2	1539.9	1538.1
12.5°	1521.3	1519.4	1512.0	1499.0	1495.2
15°	1480.3	1480.3	1465.4	1450.5	1445.0
17.5°	1435.6	1433.8	1415.2	1400.3	1392.8
20°	1387.2	1383.5	1364.9	1340.7	1327.6
22.5°	1333.2	1333.2	1310.9	1279.2	1266.2
25°	1283.0	1275.5	1255.0	1210.3	1176.8
27.5°	1225.2	1214.1	1191.7	1128.4	1089.3
30°	1161.9	1156.3	1124.7	1042.8	1013.0
32.5°	1102.3	1093.0	1059.5	973.9	949.6
35°	1040.9	1033.4	983.2	908.7	886.3
37.5°	979.4	970.1	906.8	847.2	819.3
40°	918.0	906.8	837.9	783.9	754.1
42.5°	860.3	845.4	778.3	720.6	687.1
45°	798.8	782.1	715.0	655.4	629.4
47.5°	737.4	722.5	661.0	599.6	569.8
50°	672.2	659.2	603.3	541.9	510.2
52.5°	618.2	597.7	543.7	482.3	456.2
55°	554.9	538.1	487.9	430.1	407.8
57.5°	497.2	480.4	433.9	379.9	361.2
60°	443.2	419.0	379.9	333.3	318.4
62.5°	383.6	365.0	331.4	292.3	311.0
65°	329.6	311.0	281.2	286.8	238.3
67.5°	270.0	260.7	234.6	208.6	201.1
70°	219.7	208.6	199.2	171.3	163.9
72.5°	175.0	163.9	150.8	135.9	130.3
75°	132.2	122.9	115.4	109.9	121.0
77.5°	91.2	87.5	81.9	76.3	74.5
80°	59.6	57.7	55.9	54.0	52.1
82.5°	35.4	35.4	35.4	35.4	35.4
85°	18.6	20.5	22.3	24.2	26.1
87.5°	11.2	11.2	13.0	14.9	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)